KOSOPALOV, I.I., inzhener.

Devices for drilling flanges without marking. Energetik 1 no.4:21-23 S '53. (MLRA 6:8)
(Boring machinery)

KOSOLAPOV, I. I.; PERKIN, S. G.; Engs.

Steam Boilers

Repair of compression surfaces on manhole covers. Nab. energ. 3, No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassifie

AID P - 3704

Subject : USSR/Electricity

Card 1/1 Pub. 29 - 9/25

Author : Kosolapov, I. I., Eng.

Title : Arrangement for centering 70 x 108 mm pipes for welding

Periodical : Energetik, 12, 14-15, D 1955

Abstract : The author describes a device which helps center for welding boiler pipes with a diameter of 70 x 108 mm. Two drawings.

Institution : None

Submitted : No date

KOSOLAPOV, I.I., inzhener.

Portable pipe cutter. Energetik 4 no.7:20-21 Jl '56.
(Pipe) (MLRA 9:9)

KOSOLAPOV, I.I., inzh; PERKIN, S.G., inzh

New design of electric drives for remote control of fittings.
Elek.sta. 29 no.9:7-11 S '58. (MIRA 11:11)
(Electric driving) (Remote control)

KOSTAPOV, I. M.

AID P - 3232

Subject : USSR/Electricity

Card 1/1 Pub. 29 - 17/30

Authors : Kosolapov, I. M., and S. G. Purkin, Engs.

Title : Machine tool for cutting and trimming condenser tubes

Periodical : Energetik, 8, 18-19, Ag 1955

Abstract : The fitting of condenser tubes is according to the authors, one of the difficult tasks in mounting steam turbine condensers. A special tool machine was developed by the Leningrad Branch of the Experimental Design Office of the Main Administration of Industrial Power-Engineering Installations. Experimental samples of the machine were given field tests before starting serial production. The authors present a detailed description of the machine and its operation. Two drawings.

Institution : None

Submitted : No date

L 1692-66 EWT(l)/EPA(s)-2

ACCESSION NR: AP5017464 UR/0144/65/000/006/0683/0689/8
621.313.044.62

AUTHOR: Bogatyrev, N. Ya. (Chief of dept); Kosolapov, I. T. (Chief of laboratory); Lozhkin, L. V. (Chief of laboratory)

TITLE: Methods of determining the wear of electric-machine brushes

SOURCE: IVUZ. Elektromekhanika, no. 6, 1965, 683-689

TOPIC TAGS: electric machine brush

ABSTRACT: Brush-wear-determining methods are subdivided into two groups: (1) Those requiring the machine shutdown and (2) Those permitting continuous wear measurement without the machine shutdown. Based on the Western sources (Engineer, 1961, 212, no. 5520, "Carbon Brush Conference"), a brief review of the methods is offered. Two methods of the second group — induction-sensor and strainometer — are considered in some detail. Wire-type strainometers with a 20-cm base and 200-ohm resistance were used in studying the wear of 6 brushes simultaneously. A wear-time experimental curve for a G-2 carbon brush is shown. It is believed that strainometers can operate at frequencies up to 50 kc and at temperatures between -100 and +800C. Orig. art. has: 7 figures.

Card 1/2

L 1692-66

ACCESSION NR: AP5017464

ASSOCIATION: Tomskiy filial, Vsesoyuznyy nauchno-issledovatel'skiy institut elektromekhaniki (Tomsk Branch, All-Union Scientific Research Electromechanical Institute)

SUBMITTED: 05Aug63 ENCL: 00 SUB CODE: EE

NO REF SOV: 002 OTHER: 001

Card 2/2

BUNAKOV, L.S.; KOSOLAPOV, I.V.

Work practices of the brigades of communist labor in the "Trekhgornaia Factory" named after F.E.Dzerzhinskii. Izv.vys.ucheb.zav.; tekh.tekst.prom. no.1:3-10 '62. (MIRA 15:3)

1. Moskovskiy tekstil'nyy institut.
(Moscow--Textile industry--Labor productivity)
(Socialist competition)

KOSOLAPOV, M.F., nauchnyy redaktor; DIMARA, I.M., redaktor; DVORNIKOVA, N.I., tekhnicheskiy redaktor.

[Productivity of equipment has increased twofold; practice of slate makers of the Brotsensk Building Materials Combine] Proizvoditel'nost' oborudovaniia uvelichilas' vdvoe; iz opyta shifernikov Brotsenskogo kombinata stroitel'nykh materialov. Moskva, Gos. izd-vo lit-ry po stroit. materialam, 1953. 42 p. (MLRA 7:8)
(Shingles) (Asbestos cement)

Kosolapov, M.G.

PHASE I BOOK EXPLOITATION SOV/3589

Sbornik radiokhimicheskikh i dozimetricheskikh metodik (Collection of Radio-Chemical and Dosimetric Methods) Moscow, Medgiz, 1959. 459 p. Errata slip inserted. 9,000 copies printed.

Eds. (Title page): N.G. Gusev, U.Ya. Margulis, A.N. Marey, N.Yu. Tarasenko, Yu.M. Shtukkenberg; Ed. (Inside book): V.I. Labaznov; Tech. Ed.: A.I. Zakharova.

PURPOSE: This collection of articles is intended for physicists, sanitation and public health doctors, chemists and other specialists working in radioactive dosimetry.

COVERAGE: This work discusses the following subjects: (1) principles of organizing sanitation and dosimetric control in institutions where work is carried on with radioactive substances; (2) radio-chemical and chemical methods for determining certain radioactive substances in samples of air, water, soil and foodstuffs; (3) physical methods of measuring contamination of the air by radioactive gases and aerosols, and methods for determining the level of contamination of working surfaces, clothes and leather coverings; (4) methods of measuring external streams of x- and gamma-radiation, and methods of individual dosimetric monitoring; (5) Absolute and relative methods of measuring the activity of solid and liquid radioactive sources. There are four appendixes dealing with methods of calculating the total dosage from sources of ionizing radiation, units of activity, and doses from natural (background) radioactivity in the calcium of foodstuffs. Sanitary regulations observed during transportation, storage, and handling of radioactive substances are discussed, as well as the permissible level of ionizing radiation. The editors thank Yu.V. Sivintsev and D.P. Shirshov. References appear at the end of each chapter.

AVAILABLE: Library of Congress

Card 11/11

TM/mas
6-2-60

L 10071-63 EPF(c)/EWT(m)/EPF(n)-2/IDS--AFFTC/ASD/SSD--Pr-4/Pu-4
ACCESSION NR: AR3000346 S/0058/63/000/004/A042/A042

SOURCE: RZh. Fizika, Abs. 4A348

AUTHOR: Tsenter, E. M.; Kosolapov, M. G.; Goleva, V. I. 64

TITLE: Spark counter for the control of Alpha contamination of external surfaces of polonium-beryllium neutron sources 19

CITED SOURCE: Sb. rabot po nekotorym vopr. dozimetrii i radiometrii ionizir. izlucheniy. Vyp. 2. M., Gosatomizdat, 1961, 249-257

TOPIC TAGS: Spark counters, Alpha particles, air or argon filled

TRANSLATION: The construction is described of a spark detector of the well type with a measurement geometry close to 4 Pi, intended for the determination of the degree of Alpha contamination of the exterior surfaces of Po-Be neutron sources. The detector is a combination of a cylindrical and end-window counter, connected to form a single structure. The cylindrical counter consists of a cylinder (cathode) 70 mm. in diameter, 2 rings, an insulator, and 72 tungsten filaments

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ACCESSION NR: AR3000346

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0.06 mm. in diameter (anode), stretched at a distance of 1.2 mm. from the inside surface of the cylinder, parallel to its generatrix. The end-window counter consists of a flat round disk (cathode), inserted in a Plexiglas mount, and 30 tungsten filaments (anode) 0.66 mm. in diameter. The gap between the filaments and the disc amounts to 1.2 mm. Both counters are secured to a Plexiglas disc, placed in a metallic housing, and operate independently of each other. The main operating characteristics of the counter are presented for both atmospheric air and argon as a filler. The counting efficiency for Alpha particles and neutrons are respectively 3 and 0.0001% for air and 12 and 0.0004% for argon. The described spark counter can be used successfully for the registration of Alpha particles against an intense background of Beta and Gamma radiation.

DATE ACQ: 14May63 ENCL: 00 SUB CODE: PH

lm/ja
Card 2/2

KOSOLAPOV, Nikolay Ivanovich

[Competition between two provinces] Sorevnovanie dvukh oblastei. Moskva, Mosk.rabochii, 1959. 75 p. (MIRA 13:6)
(Moscow Province--Agriculture)
(Kiev Province--Agriculture)

KOSOLAPOV, N.M., inzhener; PERKIN, S.G., inzhener

Machine for cutting off and cleaning the ends of condenser tubes.
Energetik 3 no.8:18-19 Ag '55. (MLRA 8:10)
(Condensers (Steam)) (Metalworking machinery)

KOSOLAPOV, Nikolay Sergeyevich; MYAGKOV, M.M., red.; ARANOVICH, V.G., tekhn. red.

[The workers' committee as the organizer of competition on a state farm] Rabochii komitet - organizator sorevnovaniia v sovkhoze. Moskva, Profizdat, 1962. 110 p. (MIRA 16:5)

1. Predsedatel' rabochego komiteta profsoyuza sovkhoza "Fedorovskiy" Kustanayskoy oblasti (for Kosolapov).
(Fedorovka (Kustanay Province--Trade unions))
(State farms)

KOSOLAPOV, S.P.

Methods for conducting operational tests of ignitrons. Elek. i tepl.tiaga 6 no.12:33-35 D '62. (MIRA 16:2)

1. Starshiy zavodskoy inspektor Glavnogo upravleniya lokomotivnogo khozyaystva Ministerstva putey soobshcheniya na Stavropol'skom zavode rtutnykh vypryamiteley.
(Electric railroads—Current supply)
(Electric current rectifiers—Testing)

KOSOLAPOV, S. Ya., inzh.; LESHCHINSKIY, M. Yu., kand.tekhn.nauk

Efficient use of building materials. Stroit. mat. 6 no.3:38-39 Mr '60. (MIRA 13:6)
(Building materials)

LITVINOV, Aleksandr Adamovich; KOSOLAPOV, Solomon Yakovlevich; LUKIYENKO, Yekaterina Petrovna; FINKINSHTEYN, B.A., inzh., red.

[Electrothermal method of tensioning high-strength wire reinforcement] Elektrotermicheskii sposob natiazheniia vysokoprochnoi provolochnoi armatury; iz opyta predpriiatii stroitel'noi industrii Donbassa. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1961. 45 p. (MIRA 14:11)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu. Byuro tekhnicheskoy informatsii. 2. Rukovoditel' laboratorii zhelezobetonnykh konstruktsiy Donetskogo nauchno-issledovatel'skogo instituta nadshakhtnogo stroitel'stva Akademii stroitel'stva i arkhitektury Ukrainskoy SSR (for Litvinov). 3. Donskoy nauchno-issledovatel'skiy institut nadshakhtnogo stroitel'stva Akademii stroitel'stva i arkhitektury Ukrainskoy SSR (for Kosolapov). 4. Glavnyy inzh. tresta "Donbasszhelezobeton" Stalinskogo sovnarkhoza (for Lukiyenko). (Concrete reinforcement)

LITVINOV, A.A.; KOSOLAPOV, S.Ya.; ROZENVASSER, G.R.

Precast reinforced concrete underground utility tunnel large enough to walk through. Gor.khoz.Mosk. 35 no.7:40-41 Jl '61. (MIRA 14:7)

1. Donetskiy nauchno-issledovatel'skiy institut nadshakhtnogo stroitel'stva (DonNII).
(Precast concrete construction) (Tunnels)

LITVINOV, A.A., inzh.; KOSOLAPOV, S.Ya., inzh.; ROZENVASSER, G.R., inzh.

Precast reinforced-concrete single tunnel for underground communication with the mine surface. Shakht. stroi. 5 no.8: 8-10 Ag '61. (MIRA 16:7)

1. Donetskiy nauchno-issledovatel'skiy institut nadshakhtnogo stroitel'stva Akademii stroitel'stva i arkhitektury UkrSSSR.
(Tunnels) (Precast concrete construction)

SVETINSKIY, Yevgeniy Vladimirovich, kand. tekhn. nauk; KOSOLAPOV, Vladimir Grigor'yevich, inzh.; FINKINSHTEYN, B.A., inzh., red.

[Use of short piles in construction] Primenenie korotkikh svai v stroitel'stve. Moskva, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 29 p. (MIRA 14:11)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu. Byuro tekhnicheskoy informatsii. 2. Sektor promyshlennogo stroitel'stva i tekhnologii proizvodstva rabot Nauchno-issledovatel'skogo instituta organizatsii, mekhanizatsii i tekhnicheskoy pomoshci stroitel'stvu (for Svetinskiy, Kosolapov).
(Piling (Civil engineering)) (Foundations)

KOSOLAPOV, V., inzh.; SVETINSKIY, Ye., kand.tekhn.nauk

Pile foundations. Stroitel' no.6:15, 18 Je '61. (MIRA 14:7)
(Piling (Civil engineering))

KOSOLAPOV, V.G., inzh.; SHEROV, A.V., inzh.

[illegible] of modern means of mechanization for building [illegible] Stroi. i dor. mash. 10 no.12:32-35 D '65. (MIRA 19:1)

LEVINZON, A.L., inzh.; KOSOLAPOV, V.G., inzh.

The new S-870 pile driver unit. Stroi. i dor. mash. 10 no.10:1-2 O '65. (MIRA 18:10)

KOSOLAPOV, Vladimir Grigor'yevich; TOKAR', K.A., kand. tekhn. nauk, retsenzent; SVETINSKIY, Ye.V., kand. tekhn. nauk, retsenzent

[Construction of pile foundations not deeply laid] Sooruzhenie svainykh fundamentov neglubokogo zalozheniia. Moskva, Stroiizdat, 1965. 125 p. (MIRA 18:7)

KOSOLAPOV, V.G., inzh.

Vibratory pile driver for driving in and pulling out posts. Mekh. stroi. 19 no.3:30 Mr '62. (MIRA 15:3)
(Piling (Civil engineering))

KOSOLAPOV, Vladimir Grigor'yevich, inzh.; TABUNINA, M.A., red. izd-va; TARKHOVA, K.Ye., tekhn. red.

[Safety manual for operators of post-hole diggers] Pamiatka po tekhnike bezopasnosti dlia mashinistov avtoiamoburov. Moskva, Gosstroiizdat, 1963. 13 p. (MIRA 16:9)
(Excavating machinery—Safety measures)

KOSOLAPOV, Vladimir Grigor'yevich, inzh.; TABUNINA, M.A., red.; TARKHOVA, K.Ye., tekhn. red.

[Safety manual for drilling crane operators] Pamiatka po tekhnike bezopasnosti dlia mashinistov buril'no-kranovykh mashin. Moskva, Gosstroiizdat, 1963. 18 p.
(MIRA 16:10)
(Cranes, derricks, etc.—Safety measures)

KOSOLAPOV, V.G., inzh.; TABUNINA, M.A., red.izd-va; TARKHOVA, K.Ye., tekhn. red.

[Safety manual for operators of pile drivers] Pamiatka po tekhnike bezopasnosti dlia koprovshchikov. Moskva, Gosstroiizdat, 1963. 19 p. (MIRA 16:9)
(Piling (Civil engineering))--Safety measures)

KOSOLAPOV, Vladimir Grigor'yevich; TABUNINA, M.A., red.; GOL'BERG, T.M., tekhn. red.

[Safety manual for piling operations] Tekhnika bezopasnosti na svainykh rabotakh. Moskva, Gosstroiizdat, 1963. 50 p. (MIRA 16:10)

(Piling (Civil engineering))—Safety measures)

KOSOLAPOV, V.I.; SKVORTSOV, Yu.M.; DEM'YANCHUK, A.S.; KISELEVA, K.V.; MIKHALENKO, V.N.

Exchange of experience. Zav.lab. 28 no.11:1388-1389 '62.
(MIRA 15:11)

1. Institut khimii Sibirskogo otdeleniya AN SSSR (for Kosolapov, Skvortsov). 2. Institut elektrosvarki imeni Ye.O.Patona AN UkrSSR (for Dem'yanchuk). 3. Fizicheskiy institut imeni P.N.Lebedeva (for Kiseleva, Mikhalenko).
(Scientific apparatus and instruments)

GEBLER, I.V.; SMOL'YANINOV, S.I.; POTAPENKO, V.Ye.; KOSOLAPOV, V.I.

Effect of the additions of iron ore and fluxes on the properties of peat as a metallurgical fuel. Izv.TPI 111:86-90 '61.
(MIRA 16:9)

(Peat) (Iron ore) (Fuel)

KOSOLAPOV, V.I.

Programmed attachment to the regulating potentiometers of the EPD type. Zav.lab. 29 no.8:1015 '63. (MIRA 16:9)

1. Kuznetskiy filial Vostochnogo nauchno-issledovatel'skogo instituta.

(Potentiometer)

LISKOVSKIY, N.G.; MEZHUYEV, V.I.; KOSOLAPOV, V.M.; ANDRYUSHCHENKO, I.A.

Using the DKST-2000 lamps in Krivoy Rog Basin open-pit mines. Gor. zhur. no.9:65-66 S '64. (MIRA 17:12)

1. Krivorozhskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta organizatsii i mekhanizatsii shakhtnogo stroitel'stva (for Liskovskiy, Mezhuyev). 2. Rudnik Yuzhnogo gornoobogatitel'nogo kombinata (for Kosolapov, Andryushchenko).

KOSOLAPOV, Ye.F.

Causes of damage to and methods of repairing steel tapping arrangements. Metallurg 5 no.5:17-20 My '60. (MIRA 14:3)

1. Vostochnyy institut metallov.
(Open-hearth furnaces--Maintenance and repair)

STRELOV, K.K.; MAMYKIN, P.S.; Prinimali uchastiye: BAS'YAS, I.P.; BICHURINA, A.A.; BRON, V.A.; VECHER, N.A.; VOROB'YEVA, K.V.; D'YACHKOVA, Z.S.; D'YACHKOV, P.N.; DVORKIND, M.M.; IGNATOVA, T.S.; KAYBICHEVA, M.N.; KELAREV, N.V.; KOSOLAPOV, Ye.F.; MAR'YEVICH, N.I.; MIKHAYLOV, Yu.F.; SEMKINA, N.V.; STARTSEV, D.A.; SYREYSHCHIKOV, Yu.Ye.; TARNOVSKIY, G.I.; FLYAGIN, V.G.; FREYDENBERG, A.S.; KHOROSHAVIN, L.B.; CHUBUKOV, M.F.; SHVARTSMAN, I.Sh.; SHCHETNIKOVA, I.L.

Institutes and enterprises. Ogneupory 27 no.11:499-501 '62. (MIRA 15:11)

1. Vostochnyy institut ogneuporov (for Strelov). 2. Ural'skiy politekhnicheskiy institut im. S.M. Kirova (for Mamykin).
(Refractory materials--Research)

KOSOLAPOV, Ye. F.; BAS'YAS, I. P.

Repairing hearth bottoms in open-hearth furnaces. Trudy Vost. inst. ogneup. no.2:59-82 '60. (MIRA 16:1)

(Open-hearth furnaces—Maintenance and repair)
(Refractory materials)

KAYBICHEVA, M. N.; FADEYEVA, N. I.; Prinimali uchastiye: KOSOLAPOV, Ye. F.; GILEV, Yu. P.; DRESVYANKIN, V. I.; MIKHAYLOV, V. S.

Studying conditions of service and the character of roof failure in electric steel smelting furnaces. Trudy Vost. inst. ogneup. no.2:101-117 '60. (MIRA 16:1)

(Electric furnaces—Maintenance and repair)
(Refractory materials—Testing)

OLENICH, I.Ya., inzh.; KOSOLAPOV, Y.G.

Mechanization of operations in the construction of pile foundations. Mekh. stroi. 19 no.9:11-12 S '62. (MIRA 15:9)
(Foundations) (Piling (Civil engineering))

KOSOLAPOV, Z. (Leningrad)

Firing range made of reinforced concrete pipe. Voen. znan. 36 no.1:33 Ja '60. (MIRA 12:12)

1. Predsedatel' komiteta pervichnoy organizatsii Dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu.
(Rifle ranges)

SVYAZKIN, Yu.A.; KOSOLAPOVA, A.T.; SOKOLOV, G.V.

Use of lumber transportation machinery with diesel engines. Trudy
STI 33:58-66 '62. (MIRA 16:6)

33941
S/665/61/000/003/005/018
E194/E420

26.2532

AUTHORS: Kosolapova, E.F., Milevskaya, N.G.

TITLE: The coefficient of linear expansion of certain materials for semiconductor thermo-electric cells

SOURCE: Akademiya nauk SSSR. Energeticheskiy institut. Teploenergetika, no.3, 1961. Poluprovodnikovyye preobrazovateli solnechnoy energii. 58-60

TEXT: Knowledge of the coefficient of linear expansion of materials for thermo-electric cells is required in order to minimize the mechanical stresses and strains that result from differential expansion of the parts. Expansion coefficient measurements were made on the following materials prepared by the hot pressing of powders Bi_2Te_3-Sb_2Te_3; PbTe; Bi_2Te_3; $CoSb_3$; ZnSb and the coupling alloy Ni-Bi. The materials were pressed at a pressure of 170 kg/cm^2 at a temperature of 350°C. Tests were also made on the following materials prepared by fusing powder in quartz bulbs under a vacuum of 6×10^{-2} mm Hg: PbTe; Bi_2Te_3 and Bi_2Te_3-Sb_2Te_3. The expansion coefficient was measured at temperatures up to 400°C. The specimen in the form of a rod was located at the end of a quartz tube and a quartz

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S/665/61/000/003/005/018
E194/E420

rod was used to connect the top end of the specimen to the expansion measuring device. The quartz tube was heated in an electric furnace and the temperature could be raised at 4°C/min. The test results are plotted in Fig.2 of which the top right hand curve relates to fused samples and the other three to pressed, the numbers against the curves have the following meaning: 1 - PbTe; 2 - Bi_2Te_3-Sb_2Te_3; 3 - Bi_2Te_3; 4 - Ni-Bi; 5 - ZnSb 6 - CoSb. Although PbTe has very good electrical properties, it has a high coefficient of expansion compared with Bi_2Te_3-Sb_2Te_3. It will be noted that for any given material the linear expansion of the powder specimen is greater than that of the fused one. No change of state occurs for the alloy Bi_2Te_3 up to 370°C for pressed samples and up to 400°C for cast. Accordingly the hot junction for the pair Bi_2Te_3-Sb_2Te_3-Bi_2Te_3 should operate below these temperatures. The alloy NiBi undergoes a magnetic transition at the temperature of 320°C which reduces the linear expansion. The linear expansion of NiBi and of the alloys Bi_2Te_3-Sb_2Te_3-Bi_2Te_3 are sufficiently similar for a thermo-electric cell of these materials to operate with a hot junction

Card 2/4

KOSOLAPOVA, L.K.

Use of polyacrylamide in sizing. Tekst. prom. 23 no.12:41 D '63. (MIRA 17:1)

1. Nachal'nik prigotovitel'nogo otdela Dreznenskoy pryadil'no-tkatskoy fabriki.

KOSOLAPOVA, M.A.

Pigment metabolism in epidemic hepatitis in children. Sbor.nauch. trud.TashGMI 22:291-299 '62. (MIRA 18:10)

1. Kafedra detskikh infektsiy (zav. kafedroy - prof. Kh.A.Yunusova) Tashkentskogo gosudarstvennogo meditsinskogo instituta.

KOSOLAPOVA, M.N.

Microconstituents in the natural waters of the Olenek basin.
Trudy IAFAN SSSR.Ser.Geol. no.16:56-74 '63. (MIRA 16:9)

S/169/63/000/002/071/127
D263/D307

AUTHORS: Kosolapova, M. N. and Kosolapov, A. I.

TITLE: Application of the hydrochemical method in prospecting for kimberlite bodies

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 2, 1963, 10, abstract 2D64 (Geologiya i geofizika, 1962, no. 2, 95-100)

TEXT: Chemical composition of natural waters was studied in Yakutian ASSR, in kimberlite-bearing territory. Along with general analysis, the authors carried out determinations of Zn, Cu. Pb, Mo and total metals, by the dithizone method. Hydrochemical sampling showed that increased metal contents, chiefly Zn, are associated with areas of occurrence of kimberlites. The concentrations of Zn in surface waters close to the contact of kimberlites with surrounding rocks reach 0.08 mg/l, the background values being 0.005 mg/l. Hydrochemical anomalies are caused by increased Zn contents in surrounding rocks close to the contacts with kimberlites. If the

Card 1/2

Application of the ...

background concentrations of Zn in rocks are 0.0005%, then an increase to 0.005 - 0.007% may be observed 1 - 5 m away from the contact with kimberlites. Some anomalies were discovered, as a result of regional hydrochemical sampling, which deserve particular attention. The investigations indicate that the hydrochemical method is effective in prospecting for fundamental diamond deposits, in combination with geological and geophysical methods. [Abstracter's note: Complete translation.]

Card 2/2

KOSOLAPOVA, M.Ya.; ZINOV'YEV, L.S.

Some morphological and anatomic changes in the structure of shoots of the linden Tilia cordata Mill. Bot. zhur. 47 no.6:857-861 Je '62. (MIRA 15:7)

1. Leningradskiy gosudarstvennyy universitet i Botanicheskiy institut imeni V.L. Komarova AN SSSR, Leningrad.
(Linden) (Gibberellin) (Botany--Anatomy)

1. KOSOLAPOVA, N. A.

2. USSR 600

4. Runoff

7. Disargreement on the principles involved in questions of the methodology for studying and calculating river discharge, Izv. AN SSSR Otd. tekh. nauk, No. 11, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

KOSOLAPOVA, N. A.

USSR/Chemistry - Isotopes. 11 Aug 53

"The Preparation of Caproic Acid Tagged with Radioactive C^{14} in the Carboxyl Group," G. V. Isagulyants, Ye. A. Andreyev, and N. A. Kosolapova

DAN SSSR, Vol 91, No 5, pp 1123, 1124

Using the Grignard reaction prepd caproic acid having C^{14} in the carboxyl group reacted amyl-Mg-bromide with $C^{14}O_2$ prepd from $BaC^{14}O_3$. Yield of caproic acid was 91% of theoretical. Presented by Acad A. N. Frumkin 13 Jun 53.

266T8

KOSOLAPOVA, N.A.

Synthesis of physiologically active compounds labeled with sulfur[35]. Yu. V. Markova, A. M. Pozharskaya, V. I. Malanina, T. F. Zimkova, N. A. Kosolapova, and M. N. Shchukina (S. Ordzhonikidze All-Union Chem.-Pharm. Inst., Moscow). *Doklady Akad. Nauk S.S.S.R.* 91, 1129-32(1953).—The paths for the synthesis of S^{35}-labeled substances of widely divergent structures that have physiol. action are outlined. The labeled $BaSO_4$ is reduced with H at 800-1000° and the resulting BaS treated with 30% H_3PO_4 yields labeled H_2S, which is oxidized to S by passage through iodine-KI. For formation of labeled H_2SO_4, the labeled H_2S is passed in N through concd. HNO_3, then evapd. Labeled thiourea is obtained from labeled BaS and NH_2CN, with $(NH_4)_2CO_3$ and a little S in aq. suspension at 25-30°, then heated to reflux and concd. Refluxing labeled S with KCN in EtOH (80%) gave labeled KCNS. Fusion of red P with labeled S gave labeled P_2S_5. This with $HCONH_2$ in Et_2O gave 65% labeled $HCSNH_2$, which is used in the synthesis of the thiazole portion of the vitamin B_1 structure. Introduction of labeled S into sulfa drugs was made through labeled H_2SO_4. For prepn. of labeled CS_2, the best conditions are as follows: 2.22 g. P_2S_5 powder and 2.31 g. CCl_4 are heated in a sealed tube 7 hrs. at 300-25°, cooled, treated with 12 g. KOH in 10 ml. H_2O, then warmed on a steam bath to distil 77.3% CS_2, contg. some CCl_4. The residual K_2S treated with HCl is recovered for S^{35} values as H_2S. The conversion of the key labeled compds. to Na thiopental, 2-diethylaminoethyl diphenylthiolacetate-HCl, sulfathiazole, methionine, vitamin B_1, *p*-acetamidobenzaldehyde thiosemicarbazone, and *p*-$Me_2CHC_6H_4CH{:}NNHCSNH_2$ were made by conventional procedures. A flow-sheet of the procedures is shown.

G. M. Kosolapoff

MAYMIND, V.I.; ZHUKOVA, T.F.; KOSOLAPOVA, N.A.; SHCHUKINA, M.N.

Synthesis of S^{35}-methionine. Khim.i med. no.11:9-14 '59.
(MIRA 13:6)

(METHIONINE)

POZHARSKAYA, A.M.; KOSOLAPOVA, N.A.; ZHUKOVA, T.F.

Synthesis of S^{35}-sulfanilamide preparations. Khim.i med. no.11: 17-23 '59. (MIRA 13:6)

(SULFONAMIDES)

POZHARSKAYA, A.M.; KOSOLAPOVA, N.A.

Synthesis of S^{35}-tibione. Khim.i med. no.11:23-26 '59.
(MIRA 13:6)

(ACETANILIDE)

PHASE I BOOK EXPLOITATION SOV/4971

Sokolov, V. A., Ye. A. Tikhomirova, and N. A. Kosolapova

Radioaktivnyy izotop sery S^{35} (Radioactive Sulfur Isotope S^{35}) Moscow, Atomizdat, 1960. 25 p. Errata slip inserted. 5,000 copies printed.

Ed.: Z. D. Andreyenko; Tech. Ed.: Ye. I. Mazel'.

PURPOSE: This brochure is intended for scientific personnel working with radio isotopes and for the general reader interested in the subject.

COVERAGE: The author discusses, in a popular form, the physical properties and methods of preparing the radioactive isotope S^{35}, as well as its various uses in scientific research, medicine, and industry. Two tables of data, one diagram, and one photograph are included. No personalities are mentioned. There are 17 references, all Soviet.

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Radioactive Sulfur Isotope S^{35} SOV/4971

TABLE OF CONTENTS:

AVAILABLE: Library of Congress

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JA/rsm/ec
4-11-61

KOSOLAPOVA, N.A., inzh.

Calculation of water losses from snow during the period of spring thawing. Trudy VNIIGiM 35:39-50 '60. (MIRA 14:9)
(Thawing)

L 12417-65 EWT(m)/EPF(n)-2/EWP(e)/EPR/EWP(h) Pe-4/Pu-4 JD/JG/MLK/AT/WH

ACCESSION NR: AT4047132 S/0000/64/000/000/0094/0103

AUTHOR: Kosolapova, T. Ya.; Makarenko, G. N. B

TITLE: Preparation of yttrium, scandium and lanthanum carbides and some of their properties

SOURCE: AN UkrSSR. Institut problem materialovedeniya. Redkiye i redkozemel'nyye elementy v tekhnike (Rare and rare earth elements in engineering). Kiev, Naukova dumka, 1964, 94-103

TOPIC TAGS: yttrium carbide, scandium carbide, lanthanum carbide, carbide structure

ABSTRACT: This is a continuation of previous work by the authors who first established the existence of YC. The crystalline structures of the various yttrium, scandium and lanthanum carbides are given as far as is known, and the rest of the paper is devoted to the physical chemistry of these compounds. The carbides were obtained by reaction of the metal with carbon in vacuo, and the effects of temperature, heating time, etc. on carbide formation and completeness of the reaction were studied. Physical properties were obtained for compact samples prepared by sintering. The figures illustrate that YC was formed at 1800-1900C, Y_2C_3 at 1700-1800C and YC_2 at 1900C. Formation of oxycarbide is also discussed, and the micro-

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SOV/137-58-10-20814

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 66 (USSR)

AUTHORS: Grigor'yeva, V.V., Klimenko, V.N., Kosolapova, ~~T.Ya.~~

TITLE: Chromium Carbide as the Basis for Special-purpose Metal Ceramics (Karbid khroma kak osnova dlya metallokeramicheskikh materialov s osobymi svoystvami)

PERIODICAL: V sb.: Vopr. poroshk. metallurgii i prochnosti materialov. Nr 5. Kiyev, AN UkrSSR, 1958, pp 80-89

ABSTRACT: A presentation is made of the results of an investigation of the optimum conditions for the preparation of Cr_3C_2. It is established that use of a 1% excess of carbon black (stoichiometric composition 13.33% C) in the charge, and holding in an H_2 atmosphere at 1600°C for 2 hours in a resistance furnace with a carbon tube makes it possible to produce Cr_3C_2 containing < 3% of the lower carbides (Cr_7C_3 and $Cr_{23}C_6$). Boiling for 3 hours in dilute HCl (1:1) was used to separate the Cr_3C_2 from the lower carbides, in which case the Cr_3C_2 remained in the precipitate. The microhardness of the resultant Cr_3C_2 was 2660-2680 kg/mm^2, which is in good agreement with literature

Card 1/2

Chromium Carbide as the Basis for Special-purpose Metal Ceramics

data. The compound Cr_3C_2 +(5-20%) Ni, sintered at >1100°, revealed high mechanical properties: σ_{bi} to 55 kg/mm^2 at room temperature, σ_{bi} up to 70 kg/mm^2 at 950°, R_A 84-89.5. Resistance to oxidation at 950° on the part of materials based on Cr_3C_2 is higher than that of stainless steel. Alloys based on Cr_3C_2 may be utilized wherever hard, corrosion-resistant materials are required.

R.A.

1. Chromium carbide---Preparation 2. Chromium carbide---Separation
3. Chromium carbide---Properties 4. Ceramics---Materials

Voprosy poroshkovoy metallurgii i prochnosti materialov, vyp. 5
(Problems in Powder Metallurgy and Strength of Materials, Nr 5)
Kiyev, Izd-vo AN USSR, 1958. 172p. 2,000 copies printed.

Ed. of Publishing House: Ya. A. Samokhvalov; Tech. Ed.: V.Ye. Skiyarova; Editorial Board: I.N. Frantsevich (Resp. Ed.), I.M. Fedorchenko, G.S. Pisarenko, G.V.Samsonov, and V.V. Grigor'yeva.

PURPOSE: This collection of articles is intended for a wide circle of scientists and engineers in the research and production of powder metallurgy. It may also be useful to advanced students of metallurgical institutes.

COVERAGE: This collection of articles describes the results of investigations made at the Institut Metallo keramiki i spetsial'nykh splavov, AN USSR (Institute of Powder Metallurgy and Special Alloys, Academy of Sciences, Ukrainian SSR). The physical and chemical properties of materials used in powder metallurgy are discussed. Materials described as new, production processes, and methods and results of mechanical testing are described. No personalities are mentioned. References follow each article.

Card 2/2

Kosolapova, T. Ya.

AUTHORS: Kosolapova, T. Ya., Kotlyar, Ye. Ye. 79-3-5-3/38

TITLE: The Resistance to Acid of Some Molybdenum Silicides (Kislotoustoychivost' nekotorykh silitsidov molibdena)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol 3, Nr 5, pp 1241-1244 (USSR)

ABSTRACT: The chemical properties of some molybdenum silicides, especially the resistance to acid of the silicides $MoSi_2$ and Mo_3Si_2 and of the tricomponent phase Mo_4CSi_3, were investigated. The method of production of the silicides from molybdenum and silicon was described. The behavior of the produced silicides with respect to HF and H_3PO_4, H_2SO_4 + H_3PO_4 in various concentrations, HNO_3 + HF in different ratios, oxalic acid + H_2O_2, oxalic acid + H_2O_2 + H_2SO_4, was investigated. The obtained results showed that the molybdenum silicide is stable in all above-mentioned mixtures, except in a mixture consisting of 4 parts H_3PO_4, 1 part H_2SO_4 and 2 parts H_2O.

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78-3-9-22/39

The Resistance to Acid of Some Molybdenum Silicides

Molybdenum silicide dissolves spontaneously in a mixture of 15 ml and 2 ml HNO_3 . Mo_3Si_2 is not as stable with respect to acids as $MoSi_2$, which is not soluble in sulfuric acid, hydrochloric acid and HF. It decomposes in nitric acid, aqua regia as well as in a mixture of oxalic acid + H_2O_2. A mixture of 4 parts H_3PO_4 + 1 part H_2SO_4 + 2 parts H_2O does not decompose at room temperature. Complete decomposition takes place at the boiling point. The ternary phase Mo_4Si_3C is analogous to Mo_3Si_2 . According to their stability, all three silicides must be classified as follows with respect to acids and oxidizing agents: $MoSi_2$ - Mo_4CSi_3 - Mo_3Si_2. There are 5 tables and 3 references, none of which are Soviet.

SUBMITTED: May 6, 1957

AVAILABLE: Library of Congress

Card 2/2

1. Molybdenum silicides--Chemical properties

5(2)

AUTHORS: Kosolapova, T.Ya., Kotlyar, Ye.Ye. SOV/32-24-12-9/45

TITLE: More Rapid Method for Complete Analysis of Silicon Carbides (Uskorennyy metod polnogo analiza karbida kremniya)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol 24, Nr 12, pp 1442-1443 (USSR)

ABSTRACT: Analytical methods are described in the publications for the analysis of technical carborundum (Refs 1,2,3) and fire-resistant carborundum articles (Refs 4,5). The present, more rapid method is provided for the determination of free carbon and silicon, as well as for silicon carbide and the iron in silicon carbide. The free carbon determination is carried out on the glowing of the sample after it has been in a muffle furnace at 850° for 20-40 minutes; this involves determining the loss in weight in the carbon content. The residue on ignition is treated with a saltpeter-flux-sulfuric acid mixture, allowed to evaporate to dryness, and then ignited again at 800-850° to constant weight. The loss in weight is now indicated by the sum $Si_{free} + SiO_2$. To avoid the presence of iron the residue is treated with hydrochloric acid, and the insoluble material is then weighed as SiC. The experimental results obtained are compared with data obtained using the method of Miklashevskiy

Card 1/2

More Rapid Method for Complete Analysis of Silicon Carbides SOV/32-24-12-9/45

(Refs 1,3) (Table 3). The analytical procedure is given, and the time required for analysis is 6-8 hours.- There are 3 tables and 5 references, 3 of which are Soviet.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov Akademii nauk USSR (Institute for Metalloceramics and Special Alloys of the Academy of Sciences, UkrSSR)

Card 2/2

Kosolapova, T.Ya.
P.D.

PHASE I BOOK EXPLOITATION SOV/3624

Akademiya nauk Ukrainskoy SSR. Institut metallokeramiki i spetsial'nykh splavov

Metallokeramicheskiye materialy i metody ikh issledovaniya; informatsionnyye materialy (Cermet Materials and Methods of Their Analysis; Information Material) Kiyev, Izd-vo AN UkrSSR, 1959. 55 p. 1,500 copies printed.

Ed. of Publishing House: I.V. Kisina; Tech. Ed.: A.M. Lisovets Editorial Board: I.N. Frantsevich, I.M. Fedorchenko, G.S. Pisarenko, G.V. Samsonov (Resp. Ed.), V.N. Yeremenko, and V.N. Paderno.

PURPOSE: This collection of articles is intended for scientific workers, designers, and engineering and technical workers in the metallurgical, machinery-manufacturing and other branches of industry.

COVERAGE: In this collection of articles the authors describe the production of carbides, nitrides and other heat resisting compounds, giving their physicochemical and mechanical properties. Their thermal processing and the processing installations are

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also described. A new method is proposed for the production of rods from refractory compounds. Certain compounds are analyzed, and the energy dissipation in materials during high-frequency mechanical vibrations is determined. No personalities are mentioned. There are 7 schematic drawings, 7 diagrams, 6 tables and 17 references, 16 of which are Soviet.

TABLE OF CONTENTS:

SAMSONOV, Grigoriy Valentinovich; KONSTANTINOV, Vladimir Ivanovich. Prinimali uchastiye: ZIV, Ye.F.; KOSOLAPOVA, T.Ya. NIKOLAYEV, N.S., doktor khim.nauk, retsenzent; VAYSENBERG, A.I., kand.tekhn. nauk, retsenzent, red.; KOLCHIN, O.P., kand.tekhn.nauk, retsenzent, red.; ARKHANGEL'SKAYA, M.S., red.izd-va; VAYNSHTEYN, Ye.B., tekhn. red.

[Tantalum and niobium] Tantal i niobii. Moskva, Gos.nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1959. 264 p. (MIRA 12:11)

(Tantalum) (Niobium)

5

AUTHORS: Kosolapova, T.Ya., and Samsonov, G.V. SOV/21-59-3-16/27

TITLE: The Formation of Chromium Carbides (Polucheniye karbidov khroma)

PERIODICAL: Dopovidi Akademii nauk Ukrains'koi RSR, 1959, Nr 3, pp 298-300 (USSR)

ABSTRACT: This article presents a study of the conditions required for the formation of pure single-phase chromium carbides, by means of reaction based on renovation of chronium-oxide

$$3Cr_2O_3 + 13C = 2Cr_3C_2 + 9CO;$$

$$7Cr_2O_3 + 27C = 2Cr_7C_3 + 21CO;$$

$$23Cr_2O_3 + 81C = 2CrC_{23}C_6 + 69CO.$$

Stroitiometric mixtures of soot and chromium-oxide were heated to various temperatures in a furnace with a graphite heater, in a flow of hydrogen. Reaction were evaluated by a chemical analysis of the renovation products and by the relation of pro-

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duct's weight to a theoretical amount of output. In the case of formation of Cr_3C_2 (Figure 1), the complete renovation with appearance of carbide was observed at temperatures of over 1,200°C. At a temperature between 1,400-1,600°C, the content of carbon in carbide was about zero. At over 1,600°C, the content of carbon in carbide dropped because of decomposition connected with the formation of Cr_7C_3. The optimum temperature was found to be between 1,200-1,300°C. The authors established that this process is not good for obtaining $Cr_{23}C_6$, because of the low thermostability of that substance. Results are compiled in a table. There are 2 graphs, 1 table and 5 references, 3 of which are Soviet, 1 English and 1 German.

ASSOCIATION: Institut metalokeramiki i spetsial'nykh splavov AN UkrSSR (Institute of Metaloceramics and Special Alloys of the AS UkrSSR)

PRESENTED: October 12, 1958, by A.K. Babko, Member of the AS UkrSSR

AUTHORS: Kosolapova, T.Ya. and Samsonov, G.V. SOV/80-59-1-9/[illegible]

TITLE: Manufacture of Higher Chromium Carbide (Prigotovleniye vysshego karbida khroma)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Nr 1, pp 55-60 (USSR)

ABSTRACT: As the obtaining of pure chromium carbide without admixtures of free carbon and lower carbides presented certain difficulties, the authors undertook an investigation for studying the conditions of Cr_3C_2 manufacture. For this purpose was used the reaction of reducing the chromium oxide with carbon taken in an excess necessary for the forming of carbide and removing of oxygen. The experiments carried out to find out the conditions for obtaining a minimum amount of lower carbides and free carbon have shown that the optimum procedure is as follows: briquets, made of the mixture of stoichiometric composition are heated at 1,400 to 1,5000C in a hydrogen stream during 30 minutes in the case of 10 to 15 g briquets or during 1 hour for briquets weighing 200 to 300 g. The reaction which takes place looks like this: $3Cr_2O_3 + 13C = 2Cr_3C_2 + 9CO$. An increased or reduced content of carbon in the mixture negatively affects the chemical and phase content of the carbide.

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There are 5 graphs, 3 tables and 10 references, 4 of which are Soviet, 3 German, 1 English, 1 Swedish and 1 American.

SUBMITTED: June 21, 1957

S/137/62/000/006/079/163
A052/A101

AUTHORS: Yeremenko, V. N., Kosolapova, T. Ya.

TITLE: Once more on the titanium carbide-nickel interaction

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 6, 1962, 35, abstract 6G268 (In collection: "Vopr. poroshk. metallurgii i prochnosti materialov". Kiyev, AN UkrSSR, no. 7, 1959, 3 - 6)

TEXT: Alloys of TiC (0.1 - 80%) with Ni produced by powder metallurgy methods were subjected to isothermal ageing at 1,040°C (in argon), 1,250, 1,300, 1,350 and 1,400°C (in vacuum) during 1 - 100 hours (depending on the temperature) and to oil hardening. To define more accurately the constitution diagram of TiC-Ni and to study the character of the TiC-Ni interaction the alloys were investigated metallographically and by the chemical phase analysis. It is shown that at the TiC-Ni interaction under indicated conditions no precipitation of free C takes place, and the system TiC-Ni is a quasibinary one, contrary to the opinion of R. Steinitz.

A. Epik

[Abstracter's note: Complete translation]

Card 1/1

KOSOLAPOVA, T.Ya.; RADZIKOVSKAYA, S.V.

Determination of free carbon in chromium carbide. Zav.lab. 26 no.2:138-139 '60. (MIRA 13:5)

1. Institut metallokeramiki i spetsial'nykh splavov Akademii nauk USSR.

(Chromium carbide--Analysis)
(Carbon--Analysis)

KOSOLAPOVA, T. YA.

PHASE I BOOK EXPLOITATION SOV/5994

Akademiya nauk Ukrainskoy SSR. Institut metallokeramiki i spetsial'nykh splavov. Seminar po zharostoykim materialam. Kiyev, 1960.

Trudy Seminara po zharostoykim materialam, 19-21 aprelya 1960 g. Byulleten' no. 6: Khimicheskiye svoystva i metody analiza tugoplavkikh soyedineniy (Transactions of the Seminar on Heat-Resistant Materials of the Insitute of Powder Metallurgy and Special Alloys of the Academy of Sciences of the Ukrainian SSR. Held 19-21 April, 1960. Bulletin no. 6: Chemical Properties and Methods of Refractory Compound Analysis). Kiyev, Izd-vo AN UkrSSR, 1961. 124 p. 1500 copies printed.

Sponsoring Agency: Akademiya nauk Ukrainskoy SSR. Institut metallokeramiki i spetsial'nykh splavov.

Editorial Board: I. N. Frantsevich; G. V. Samsonov, Resp. Ed.; I. M. Fedorchenko, V. N. Yeremenko, V. V. Grigor'yeva, and T. N. Nazarchuk; Tech. Ed.: A. A. Matveychuk.

Card 1/5

Transactions of the Seminar (Cont.) SOV/5994

PURPOSE: This collection of articles is intended for chemists, engineers, workers at scientific research institutes and plant laboratories, senior students, and aspirants at chemical and metallurgical schools of higher education.

COVERAGE: Articles of the collection present the results of studies of the chemical properties of refractory compounds (carbides, borides, nitrides, phosphorides, silicides), refractory and rare metals, and their alloys, and some original methods of analyzing these materials, which are now being utilized in the new fields of engineering. No personalities are mentioned. Each article is accompanied by references, mostly Soviet.

TABLE OF CONTENTS:

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82670

S/080/60/033/007/017/020
A003/A001

5.2200A

AUTHORS: Samsonov, G. V., Kosolapova, T. Ya., Paderno, V. N.

TITLE: The Preparation of Thorium Carbides

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol. 33, No. 7, pp. 1661-1664

TEXT: Thorium carbides, especially ThC_2, are initial materials for cathodes in electronic engineering. A ThC_2 cathode operates steadily at 1,900°C for 900 hours. The conditions for obtaining pure ThC and ThC_2 by the reactions: $ThO_2 + 3C = ThC + 2CO$; $ThO_2 + 4C = ThC_2 + 2CO$; were studied. Briquettes of the corresponding stoichiometric charges were heated in the vacuum furnace at temperatures from 1,000 to 1,900°C. At temperatures below 1,450°C a product containing a large excess of free carbon is formed. The optimum conditions for obtaining pure ThC are heating of the briquettes at a temperature of 1,800-1,900° C and an initial pressure of $2\text{-}3 \cdot 10^{-2}$ mm Hg for 2 hours. The formation of dicarbide starts at 1,400°C. The optimum conditions for ThC_2 preparation are heating at a temperature of 1,800-1,850°C and an initial pressure of $2\text{-}3 \cdot 10^{-2}$ mm Hg. The heating time for briquettes of 15-20 g is 2 hours. It was shown

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The Preparation of Thorium Carbides

that thorium carbides are easily soluble in water, diluted acids and alkali solutions. There are 2 graphs, 3 tables and 5 references: 4 Soviet and 1 American.

SUBMITTED: December 15, 1959

1X

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82676
S/080/60/033/008/002/013
A003/A001

5 2200

AUTHORS: Kosolapova, T.Ya., Samsonov, G.V.

TITLE: The Preparation of Lower Chromium Carbide

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol. 33, No. 8, pp. 1704-1708

TEXT: In the chromium-carbon system there are three carbides of the following composition: Cr_3C_2, Cr_7C_3 and $Cr_{23}C_6$. The first two carbides were investigated in Refs. 1, 2. The conditions for obtaining $Cr_{23}C_6$ by reduction of chromium oxide with carbon in an atmosphere of hydrogen and in a vacuum according to the reaction $23C_2O_3+81C=2Cr_{23}C_6+69CO$ was investigated, as well as the direct reaction between chromium and carbon. The experiments were made with briquets of stoichiometric composition at temperatures from 1,000 to 1,500°C. It was shown that the carbide formation sets in at 1,100°C. Already at 1,150°C a product is obtained which contains more carbon than $Cr_{23}C_6$, i.e., which contains also higher carbides. The preparation of $Cr_{23}C_6$ under the conditions mentioned proved to be impossible. Roentgen-analysis showed also a high content of higher carbides in the reaction products obtained at 1,100 and 1,200°C. The reduction of the carbon content in the mixture led to the formation of products containing a considerable amount of nitrogen and oxygen. This is explained by defects in the structure of $Cr_{23}C_6$. The

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82676
S/080/60/033/008/002/013
A003/A001

The Preparation of Lower Chromium Carbide

carbide desired can be obtained by sintering a powder mixture of chromium and carbon black of calculated composition in graphite press-dies, using hot pressing in an atmosphere of argon. The sintering is carried out at 1,200-1,300°C, holding the powder mixture for 15 min under a pressure of 160 kg/cm^2. The products obtained have the following composition (%): Cr=92-92.5, C_{bound}=5.7-5.9, C_{free}-traces, N=0.6-0.8, O-up to 0.8. There are 4 tables and 4 Soviet references.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov AN UkrSSR
(Institute of Metal Ceramics and Special Alloys of the AS UkrSSR)

SUBMITTED: October 31, 1959

Card 2/2

KOSOLAPOVA, T. Ya.

Cand Chem Sci - (diss) "Study of the conditions necessary for the production of chromium carbides and a study of some of their properties." Kiev, 1961. 15 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Moscow Inst of Fine Chemical Technology imeni M. V. Lomonosov); 250 copies; price not given; list of author's works on pp 14-15 (10 entries); (KL, 5-61 sup, 176)

S/137/62/000/008/062/065
A006/A101

AUTHORS: Kosolapova, T. Ya., Kugay, L. N., Modylevskaya, K. D., Radzikovskaya, S. V., Seraya, O. G.

TITLE: Chemical properties and methods of analyzing some silicides

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 8, 1962, 10 - 11, abstract 8K63 ("Byul. In-t metallokeram. i spets. splavov, AN UkrSSR", 1961, no. 5, 69 - 74)

TEXT: It was established that the most efficient method of transferring intermediate metals of group IV, V and VI of the periodic system into a silicide solution when determining their total Si content, was alloying with NaOH in Ni- or Fe-crucibles. Methods were developed of determining the total Si content in W, Nb, Ta, Zr silicides. The methods are based on the binding of metal during the separation of SiO_2 into a soluble complex compound with the aid of oxalic (W, Nb, Ta) or citric (Zr) acids. Si in the Ti silicide is determined with the use of the perchlorate method. A method was developed of determining free Si in Ti, Zr, Ta, Th, Cr, V, Mo, Fe, and Mn disilicides. This method is based on the dissolving of free Si in 1% NaOH solution.
[Abstracter's note: Complete translation]

L. Vorob'yeva

Card 1/1

35050
S/700/61/000/006/003/018
D217/D304

15.2240

AUTHORS: Kosolapova, T. Ya. and Samsonov, G. V.

TITLE: Chemical properties and methods of analysis of chromium carbides

SOURCE: Akademiya nauk Ukrainskoy SSR. Institut metallokeramiki i spetsial'nykh splavov. Seminar po zharostoykim materialam. Kieyev, 1960. Trudy no. 6: Khimicheskiye svoystva i metody analiza tugoplavkikh soyedineniy. Kieyev, Izdvo AS UkrSSR, 1961, 38-44

TEXT: The behavior of powdered and compacted specimens of various chromium carbides was studied in various chemical media at room temperature and on heating. The stability of the carbides at room temperature was studied by treating 0.2 g samples with 50 ml solvent for 48 hours. The insoluble portion was filtered off, dried and weighed, and the chromium content of the solution was determined. High-temperature treatment with acids and acid mixtures, as well as with solutions of alkalis was carried out whilst heating

Card 1/3

Chemical properties and ...

0.5 g specimens in a flask provided with a condenser. The insoluble residue was filtered off and weighed. The chromium content of the solution was determined. It was found that the resistance of the carbides to the action of mineral acids, their mixtures and solutions of alkalis, decreases in the order Cr_3C_2 - Cr_7C_3 - $Cr_{23}C_6$, this behavior being associated with their crystal structure. Their resistance increases in the presence of oxidizing agents. Oxidation of all the carbide powders commences at 700°C and the laws of oxidation for the various carbides are different. Compacted specimens of Cr_3C_2 and $Cr_{23}C_6$ remain practically unoxidized up to 1100°C. A method for determining the free carbon content of the chromium carbides was developed. This was based on the oxidation resistance of the latter. There are 8 tables and 10 references: 7 Soviet-bloc and 3 non-Soviet-bloc. The references to the English-language publications read as follows: J. Leahe, Metallurgia, 45, 98, 1952; K. Kelley, F. Boericke, G. Moore, E. Huffman and W. Bangert, Techn. Report, No. 662, 1944.

Card 2/3

S/700/61/000/006/003/018
D217/D304

Chemical properties and ...

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov AN USSR (Institute of Powder Metallurgy and Special Alloys AS UkrSSR)

Card 3/3

35053
S/700/61/000/006/008/018
D267/D304

15.2240

AUTHORS: Kosolapova, T. Ya., Kugay, L. N., Modylevskaya, K. D., Radzikovskaya, S. V. and Seraya, O. G.

TITLE: Chemical properties and methods of analyzing some silicides

SOURCE: Akademiya nauk Ukrainskoy SSR. Institut metallokeramiki i spetsial'nykh splavov. Seminar po zharostoykim materialam. Kiyev, 1960. Trudy no. 6: Khimicheskiye svoystva i metody analiza tugoplavkikh soyedineniy. Kiyev, Izd-vo AS UkrSSR, 1961, 69-74

TEXT: The author investigated the behavior of silicides in different media. The following disilicides were synthesized and investigated: $TiSi_2$, VSi_2, $TaSi_2$, $CrSi_2$, $MoSi_2$. They were comminuted ($\leqslant$ 270 mesh) and acid-treated at 100 - 120°C for 2 hours. The insoluble residue was weighed and the content of dissolved metal in the solution was determined. The tabulated results of these tests

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Chemical properties and ...

(carried out also with $ZrSi_2$, $NbSi_2$ and WSi_2) show that all disilicides dissolve fast and completely in the HF + HNO_3 and H_2SO_4 + + H_3PO_4 mixtures. To determine total Si the authors recommend alkaline fusion, followed by acid extraction. To prevent the coprecipitation of the oxides of Ti, Zr, Nb, Ta and W the authors introduced a complex-forming agent which preserved the metals in an easily soluble form. The $HClO_4$ method was used in the case of Ti. A saturated solution of oxalic acid was introduced in the case of $NbSi_2$, $TaSi_2$ and WSi_2, after the solutions in H_2SO_4 had been evaporated to a concentration, at which SO_3 fumes appeared. Citric acid was used as complex former in the case of $ZrSi_2$, to ascertain the applicability of the colorimetric determination (as yellow silicomolybdic heteropolyacid) of free Si when dissolved in 1% NaOH.

It was found that this method can be used for deter-

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Chemical properties and ...

mining free Si in the disilicides of Ti, Zr, Ta, Cr, V, Mo, Th, Fe and Mn and the suggested procedure is given. It is recommended determining metals in silicides after Si has been eliminated as SiF_4 by treating the silicide with a HF + HNO_3 mixture in a Pt dish. The authors developed a method of Co determination. After the silicide has been dissolved in the HF + HNO_3 mixture in a weighed Pt dish and after addition of H_2SO_4, Si evolves as SiF_4; then the remainder of H_2SO_4 is removed in the muffle furnace at 450 - 475°C, the remaining $CoSO_4$ is weighed. There are 4 tables and 8 references: 7 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov AN USSR (Institute of Powder Metallurgy and Special Alloys AS UkrSSR)

Card 3/3

S/126/61/011/001/014/019
E032/E314

AUTHORS: L'vov, S.N., Nemchenko, V.F., Kosolapova, T.Ya and Samsonov, G.V.

TITLE: On the Electrical Properties of Chromium Carbides

PERIODICAL: Fizika metallov i metallovedeniye, 1961, Vol. 11, No. 1, pp. 143 - 145

TEXT: The present authors have measured the resistivity ρ, the Hall coefficient R at room temperature, the thermo-electric power ε_T and the temperature coefficient of resistance α_ρ for $Cr_{23}C_6$, Cr_7C_3 and Cr_3C_2. The results obtained are given in the following table.

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E032/E314

On the Electrical Properties of Chromium Carbides

Phase	Carbon concentration, %	ρ $\mu\Omega \cdot cm$	$R \cdot 10^4$ $cm^3/coul$	ε_T $\frac{\mu V}{deg}$	$\alpha_\rho \cdot 10^3$, deg^{-1}	$\delta = n_- u_-^2 - n_+ u_+^2$ $cm/V^2 sec^2$
Cr	0	18.9	+3.63	-	+2.5	-63.6
$Cr_{23}C_6$	5.33	127±2	+1.2+0.2	+2.76±0.02	+1.72±0.11	-4.6
Cr_7C_3	9.00	109±4	-0.38±0.03	-7.1±0.3	+1.06+0.05	+0.20
Cr_3C_2	13.33	75±5	-0.47±0.03	-6.7±0.5	+2.33±0.04	+0.52

The Cr_3C_2 and Cr_7C_3 powders were prepared by the method described by Kosolapova and Samsonov in Ref. 1 and 2.

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S/126/61/011/001/014/019
E032/E314

On the Electrical Properties of Chromium Carbides

The Hall coefficient was measured using direct current in a magnetic field of 12 500 Oe and the resistivity was measured potentiometrically. The thermo-electric coefficient was determined relative to commercial copper and then converted to lead (20-100 °C) and the temperature coefficient of resistance was determined in the temperature range 0-100 °C. The effect of the porosity of the specimens on R and ϱ was determined by graphical extrapolation from experimental data for Cr_7C_3 and Cr_3C_2, while for $Cr_{23}C_6$ the formulae given by Juoretscke and Steinitz (Ref. 3) were used. The quantities ε_T and α_ϱ were found to be independent of the porosity. There are 1 table and 7 references: 5 Soviet and 2 non-Soviet.

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S/126/61/011/001/014/019
E032/E314

On the Electrical Properties of Chromium Carbides

ASSOCIATIONS: Institut metallokeramiki i spetsial'nykh splavov AN UkrSSR (Institute of Metal Ceramics and Special Alloys of the AS Ukrainian SSR)
Khersonskiy pedagogicheskiy institut im. N.K. Krupskoy (Kherson Pedagogical Institute im. N.K. Krupskaya)

SUBMITTED: June 27, 1960

Card 4/4

24430
S/080/61/034/007/004/016
D223/D305

15 2240

AUTHORS: Samsonov, G.V., Makarenko, G.N., and Kosolapova, T.Ya.

TITLE: Preparation and properties of yttrium monocarbide

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 7, 1961, 1444 - 1448

TEXT: Of all yttrium carbides the highest practical interest is in yttrium monocarbide YC, whose properties in contrast to YC_2 should be closer to the chemically stable carbides of transition metals of the V period (zirconium, niobium, molybdenum). Literature does not give any data on existence of this carbide, hence the present work deals with the investigation into the possibility and conditions of its preparation and study of some properties. To prepare YC use is made of vacuum reduction of yttrium oxide, with carbon, by the following reaction:

$$Y_2O_3 + 5C = 2YC + 3CO.$$

Card 1/6

Preparation and properties ...

After explaining the preparation methodology the products of reduction-carbonization were analyzed for yttrium content, total and free carbon. The analysis was difficult, since the products of reduction decomposed in air. The results of analysis are given in Table 1 and Fig. 1.

Table 1. Results of experiments to prepare YC (change of stoichiometric composition).

Legend: 1 - temperature, °C; 2 - wt. of briquettes; 3 - initial; 4 - final, A; 5 - decrease in wt. %; 6 - calculated wt. of briquettes after heating, B (gr.); 7 - ratio A/B, %; 8 - heating time, hours; 9 - composition, %; 10 - total C; 11 - free C; 12 - C combined; 13 - C total; 14 - N.D.; 15 - N.D.; 16 - samples melted;
* C combined calculated on carbide phase YC : $C_{comb} = \frac{C_{total} - C_{free}}{100 - C_{free}} \times 100$ %.

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Preparation and properties ...

Table 1. (Cont'd).

ТАБЛИЦА 1

Результаты опытов по приготовлению монокарбида иттрия (шихта стехиометрического состава)

Температура (°С)	Вес брикета (г) начальный	Вес брикета (г) конечный	Убыль веса (%)	Расчетный вес брикета после нагрева — В (г)	Отношение А/В (%)	Время нагрева (час)	Y	$C_{общ}$	$C_{своб}$	$C_{связ}$	$C_{общ}$
1000	10.20	9.90	3.0	7.20	137	2.16	62.0	24.8	24.8	не обн.	86.85
1100	10.45	10.15	2.8	8.22	124	2.00	64.1	21.3	21.2	не обн.	85.4
1200	9.90	9.82	0.8	6.99	140	2.16	63.0	20.1	20.2	не обн.	83.1
1300	10.99	10.70	2.6	7.76	138	2.16	63.0	20.4	20.4	не обн.	83.4
1400	7.99	7.65	4.2	5.64	135	2.33	62.9	20.4	20.6	не обн.	83.3
1500	9.78	9.30	4.9	6.90	135	2.00	63.2	20.4	20.1	не обн.	83.6
1550	3.12	2.85	8.6	2.46	116	2.50	64.6	18.2	10.6	8.4	82.8
1600	7.55	6.04	20.0	5.33	113	3.16	74.8	15.6	4.7	11.4	90.4
1700	9.94	7.74	22.1	7.02	110	3.16	77.4	14.1	не обн.	14.1	91.5
1800	10.22	7.65	25.1	7.21	106	3.00	81.0	14.0	не обн.	14.0	95.0
1850	11.10	8.50	23.4	8.73	97.6	2.00	83.2	14.4	не обн.	14.4	97.6
1900	8.85	5.95	32.7	6.25	95.1	3.16	85.3	12.0	не обн.	12.0	97.3
2000	6.95	Образец расплавился				3.16	78.0	15.5	0.31	15.3	93.3

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S/080/61/034/007/004/016
D223/D305

Fig. 1. Composition of reduction products against temperature.

Legend: V - concentration (%); G - ratio A/B (see Table 1); D - temperature °C; 1 - coefficient A/B; 2 - yttrium concentration; 3 - combined C; 4 - free carbon; 5 - total C + Y; 6 - calculated concentration of Y; 7 - calculated concentration of carbon.

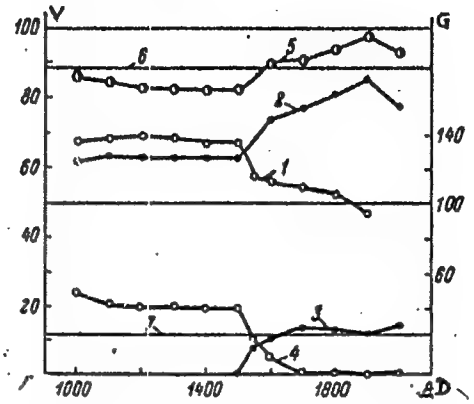

Рис. 1. Зависимость состава продуктов реакции от температуры.

В — содержание (%), *Г* — отношение А/Б (табл.), *Д* — температура (°С).
1 — коэффициент А/Б; *2* — содержание иттрия, *3* — то же связанного углерода, *4* — то же свободного углерода; *5* — сумма содержаний $C_{общ}$ + Y; *6* — расчетное содержание Y, *7* — то же углерода.

Card 4/6

Preparation and properties ...

It follows from the above data that combined carbon agrees with the calculated value for the formation of the YC phase and free carbon practically disappears at 1700°C; similarly the yttrium concentration approaches that of YC at 1900°C; at this temperature the sum (yttrium content + total carbon) is more stable and approaches an accuracy of analysis of 97-98 %. Above 1900°C the yttrium carbide melts with a loss of yttrium by evaporation leaving a liquid phase rich in carbon. At temperatures of 1900°C and time of 2.5 - 3 hours a uniform product is formed, golden colored, having a mean combined C content of 12 %, free C, equal practically to zero which agrees with carbide YC (theoretical combined C = 11.89%). The thermal analysis of yttrium carbide distribution for the range from 20 to 1100° by the method of T.S. Verkhoglyadova and L.L. Vereykina (Ref. 7: TsITEIN, M., vyp. 2, 14, 1960) using a protecting atmosphere showed the absence of any transformations; the coefficient of thermal expansion is small and equal to $1.36 \cdot 10^{-1}$ degree^{-1}. The specific resistance, determined by a probe method was equal to $4 \cdot 10^{4}$ $\mu\Omega$ cm. Thermoelectric power determined for the

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Preparation and properties ...

couple with electrolytic copper and calculated with respect to lead was found to be 34.8 μV/degree. On the basis of this data it follows that YC possesses semiconducting properties. The melting point was equal to 1950 ± 20°C. Yttrium monocarbide rapidly oxidizes in air (in a powdered state), decomposes with water and weak acid and alkali solution; concentrated acids decomposed it slightly. Also it decomposes in air at room temperature at different rates, first rapidly (formation of oxycarbides) reaching a maximum and then gradually decreasing (decomposition of oxycarbides into Y_2O_3). After 50 hours of air oxidation, the carbon content falls to 5.1 % and after 75 hours to 2.5 %. There are 5 figures, 3 tables and 8 references: 3 Soviet-bloc and 5 non-Soviet-bloc. The reference to the English-language publication reads as follows: F. Spedding, K. Gschmider, A. Daane, J. Am. Chem. Soc., 80, 4499, 1958.

ASSOCIATION: Otdel tugoplavkikh materialov instituta metallokeramiki i spetssplavov AN USSR (Department of High Melting Materials. Institute of Metal Ceramics, AS USSR)

SUBMITTED: November 5, 1960

Card 6/6

31475
S/080/61/012/034/013/017
D204/D305

18.3100 1087

AUTHORS: Samsonov, G.V., and Kosolapova, T.Ya.

TITLE: Preparation of metallic chromium by the interaction of Cr_2O_3 and Cr_3C_2

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 12, 1961, 2780 - 2782

TEXT: The reaction $2Cr_2O_3 + 3Cr_3C_2 = 13\ Cr + 6\ CO$ was studied to investigate the possibility of preparing pure chromium and also niobium, by an analogous method. In the present study, the reaction was followed manometrically and the products were examined both chemically and by phase analysis (the latter based on differential solubility in HCl). It was found that Cr_2O_3 and Cr_3C_2 reacted at 1200°C to give Cr_7C_3 which in turn reacted with excess chromia at 1400°C to yield metallic chromium. Heating compacted stoichiometric mixtures of the two reactants between 1000-1700°C showed that initial interaction takes place at 1200°C. With rising tem-

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Preparation of metallic chromium ...

perature the proportions of Cr_2O_3 and Cr_7C_3 in the product decreased and that of Cr increased, to 95.4 % at 1600°C. A product containing 96.0 % Cr, 0.9 % Cr_7C_3 and 2.5 % Cr_2O_3 was obtained on heating the reaction mixture from 1200° to 1600°C and maintaining the latter temperature for 1 1/2 hours. The oxide could be eliminated from the product by using only 90 % of the stoichiometric amount of Cr_2O_3 in the starting mixture, but this increased the Cr_7C_3 to $\sim$ 2 %. The best results (98 - 99 % Cr, $\sim$ 1 % Cr_7C_3) were obtained were obtained with 93 - 95 % of the theoretical quantity of Cr_2O_3. X-ray analysis, performed by N.N. Zhuravlev (MGU) showed the metal to be β-chromium. There are 1 figure, 2 tables and 5 Soviet-bloc references.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov, AN USSR (Institute of Metalloceramics and Special Alloys, AS USSR)

SUBMITTED: January 27, 1961

Card 2/2

S/076/61/035/002/008/015
B124/B201

AUTHORS: Kosolapova, T. Ya., and Samsonov, G. V.

TITLE: Kinetics of the oxidation of chromium carbides

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 2, 1961, 363 - 366

TEXT: A comparative study has been made of the oxidation kinetics of powder and compact chromium oxide specimens obtained in a fairly pure state by the methods described in the papers (Ref. 3 : Zh. prikl. khimii, 32, 55, 1959; Ref. 4 : Zh. prikl. khimii, 32, 1505, 1959). The average grain diameter of all carbides was 5 - 8μ ; the porosity of the sintered Cr_3C_2 specimens was 5-6 %, and that of Cr_7Cr_3 was 18 - 20 %. The specimens were burned in a Mars furnace, and the CO_2 liberated by burning was determined by a volumetric absorption procedure. Oxidation took one hour at 400 - 1000° C. The results obtained (Table 2) show that the oxidation of chromium carbides begins at 700° C, while the free carbon is burned at lower temperatures. At a ratio of the specific volume of the oxide film to the

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